



ACUTE GASTROENTERITIS SURVEILLANCE

Monthly Report

13 Feb 2020

Data Summary for:

1–31 Jan 2020

Purpose: To summarize current AGE surveillance data among military recruit and trainee populations

LAB TEST RESULTS

JAN 2020

Note: Specimens received from the current norovirus outbreak at MCRD-PI will be presented here in next month's report. Please see Figure 1 below for more details.

TOTAL POSITIVE SAMPLES

11

TOTAL TESTED SAMPLES

15

Table 1. All AGE surveillance samples received during the given month undergo diagnostic testing for 21 enteric pathogens. Samples are tested approximately one to two weeks post collection date and/or symptom onset.

| | MCRD-SD | MCRD-PI | RTC-GL | FtLW | NSWC |
|----------------------------|---------|---------|--------|------|------|
| Samples Tested | 5 | 1 | 6 | 3 | 0 |
| Total Positive Samples | 2 | 1 | 6 | 2 | - |
| Percent Positivity | 50.0 | 100.0 | 100.0 | 66.7 | |
| Total Pathogens Identified | 3 | 1 | 7 | 2 | |
| Norovirus GII | | | 5 | 2 | |
| Adenovirus | 1 | | 1 | | |
| EPEC | 1 | | | | |
| Vibrio | 1 | | | | |
| Clostridium difficile | | 1 | 1 | | |

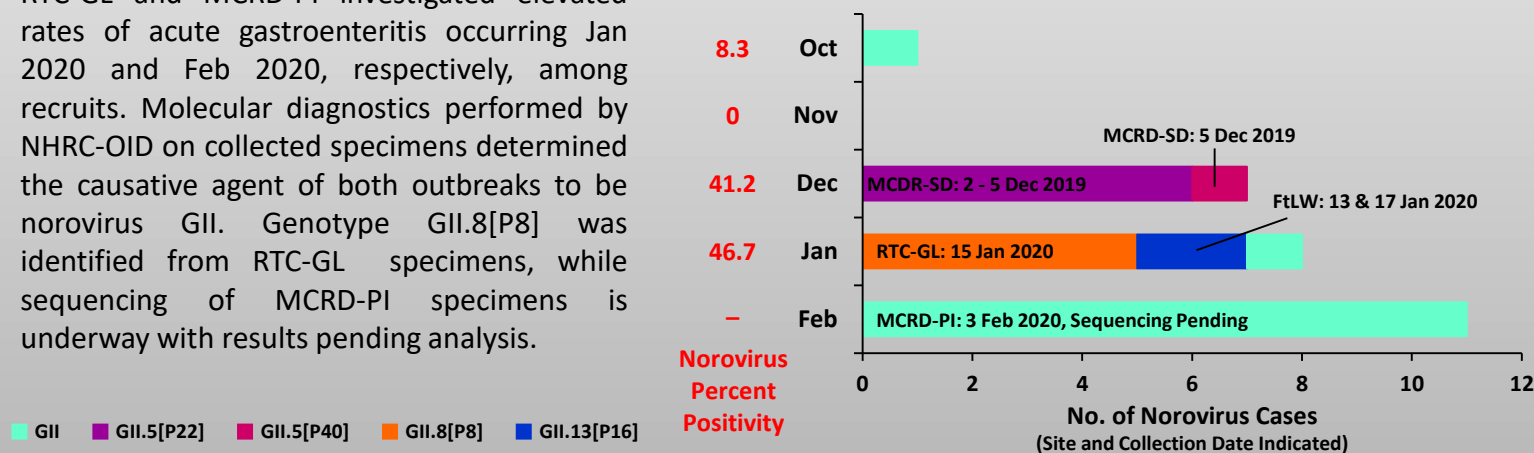
Note: Fecal shedding of adenovirus vaccine strains is expected in recruits. Positive specimens listed here are pending sequencing.

OUTBREAK SUPPORT – NOROVIRUS AT RTC-GL & MCRD-PI

JAN – FEB 2020

Preventive Medicine departments working at RTC-GL and MCRD-PI investigated elevated rates of acute gastroenteritis occurring Jan 2020 and Feb 2020, respectively, among recruits. Molecular diagnostics performed by NHRC-OID on collected specimens determined the causative agent of both outbreaks to be norovirus GII. Genotype GII.8[P8] was identified from RTC-GL specimens, while sequencing of MCRD-PI specimens is underway with results pending analysis.

Figure 1. Norovirus genotypes and percent positivity of all collected specimens from recruit surveillance sites 1 Oct 2019 – 3 Feb 2020.



AGE Recruit and Trainee Surveillance Sites: Marine Corps Recruit Depot San Diego, Marine Corps Recruit Depot Parris Island, Recruit Training Command Great Lakes, Fort Leonard Wood, Naval Special Warfare Center, Camp Pendleton 31 Area.

CDC-CDPH Border Infectious Disease Surveillance Sites: El Centro Regional Medical Center Outpatient Calexico, El Centro Regional Medical Center Outpatient El Centro.

Acute Gastroenteritis (AGE) Case Definition: ≥ 3 episodes of vomiting and/or diarrhea in 24 hr OR ≥ 2 episodes of vomiting and/or diarrhea in 24 hr presenting with at least two of the following symptoms: vomiting, diarrhea, abdominal cramps, abdominal pain, fever, nausea, blood/mucus in stool.

Abbreviations: EIEC – enteroinvasive *Escherichia coli*, EAEC – enteroaggregative *E. coli*, ETEC – enterotoxigenic *E. coli*, EPEC – enteropathogenic *E. coli*, STEC – shiga toxin-producing *E. coli*.



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CUMULATIVE AGE INCIDENCE AMONG MILITARY RECRUITS

29 SEP 2019 – 1 FEB 2020

Figure 2. Recruits meeting AGE case definition, epidemiological week 40 to date (blue bars). Overall incidence rate, per 1,000 recruits (red line). Note that site graphs are individually scaled.

MCRD – San Diego

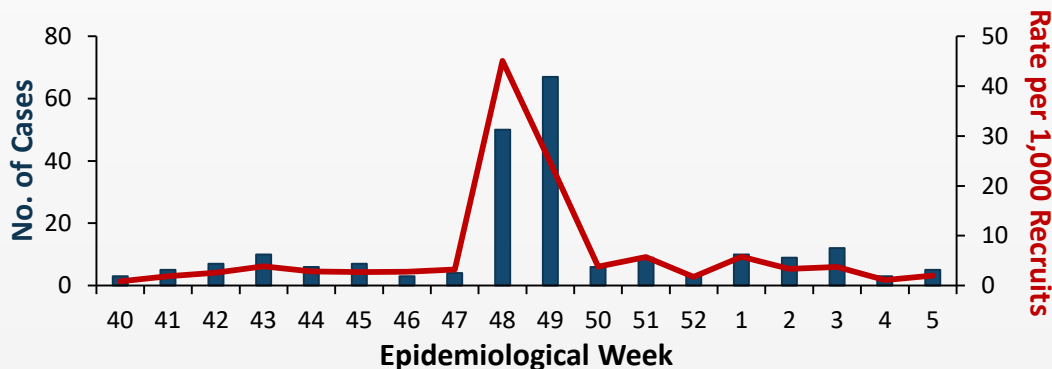
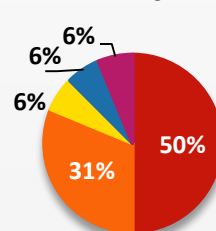
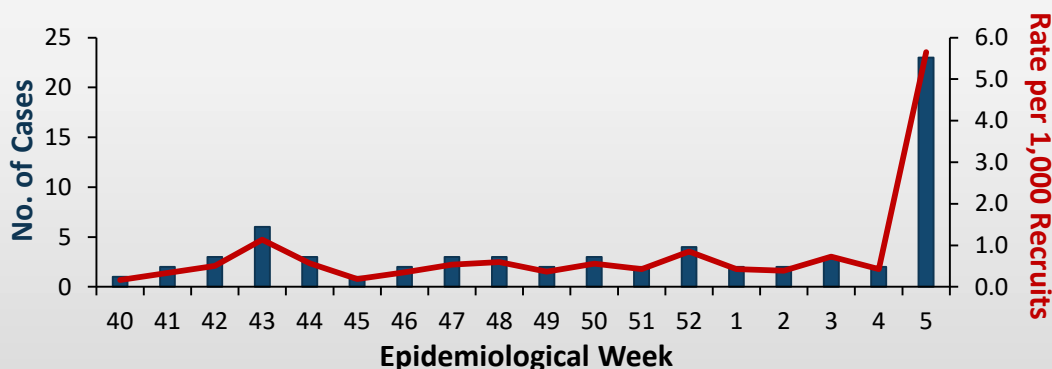
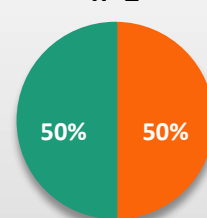


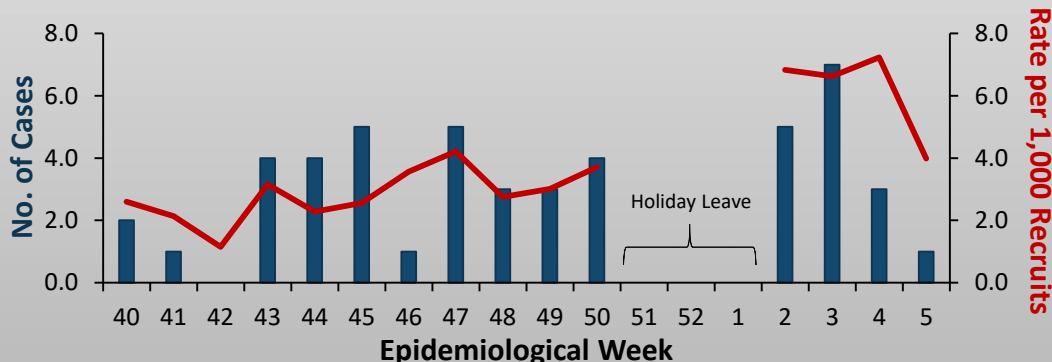
Figure 3. Total pathogens detected from all positive specimens from each recruit surveillance site, 1 Oct 2019 – 31 Jan 2020.

Pathogens Detected
n=16

MCRD – Parris Island

Pathogens Detected
n=2

Fort Leonard Wood

Pathogens Detected
n=2

RTC – Great Lakes: Data pending while research assistant position is in transition.

Norovirus GI
Norovirus GII

Adenovirus
(vaccine strain E4/B7
or sequence pending)

Sapovirus
Adenovirus
(non-vaccine strain)

Rotavirus
Salmonella

Campylobacter
Clostridium difficile

EAEC
EPEC

Shigella/EIEC
ETEC

Giardia lamblia
Yersinia
enterocolitica
Vibrio spp.